REMARKS

Claims 126-201 are in the application.

Claims 167-170 are amended.

Claims 126-176 are presented for examination, and claims 177-201 are withdrawn as being directed to a non-elected group.

Claims 126-133 and 136 are rejected under the judicially created doctrine of obviousness-type Double Patenting in view of commonly owned US 5,932,119. Subject to allowability of the other claims in the application, applicants will submit a terminal disclaimer to overcome this rejection.

Claims 137-138 are rejected under the judicially created doctrine of obviousness-type Double Patenting in view of commonly owned US 5,932,119 in view of Rossenwasser et al., US 5,753,887. Subject to allowability of the other claims in the application, applicants will submit a terminal disclaimer to overcome this rejection.

Claims 134-135, 154-159, 161-164, 167-168 and 173 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to be supported by an enabling specification.

Claims 134-135 are supported in the specification in at least the paragraph spanning pages 14 and 15, which reads:

> In another scheme, a stone may be authenticated without the certificate of authenticity, e.g., by a typical jeweler employing simple tools, such as a jeweler's loupe and telephone. Therefore, according to one embodiment of the invention, a jeweler uses a loupe to read an alphanumeric inscription, invisible to the naked eye, on a gemstone. The alphanumeric inscription, or a portion thereof, includes identifying information about the gemstone, e.g., a serial number, which is entered into an authentication system, e.g., by a telephone keypad. **The characteristics of the stone, determined at or around the time of the marking process, are then retrieved from a database. In general, these stored characteristics may include grading, size, identification and possible location of flaws, and an image of the stone, including unique or quasi-unique features.** Thus, for example, an image of the marking and stone or portions of the stone, e.g., surrounding landmarks of the stone may be stored. Some or all of these characteristics may then be provided to the jeweler, such as by voice synthesis, telefacsimile of the image, or otherwise. Where a certificate of authenticity is available, the certificate may be recreated and a facsimile transmitted to the jeweler, allowing verification of all information contained thereon. The jeweler then compares the retrieved metries and indicia with those of the stone. If the stone corresponds to the

stored information, the stone is likely genuine. If, on the other hand, the stone does not correspond to the stored information, it is possible that the stone is a forgery.

Claims 154-159 are supported by the specification at least at page 23 and 28-29:

According to another aspect of the invention, the laser energy microinscribing system includes a semiconductor excited Q-switched solid state laser energy source, a cut gemstone mounting system, having an aperture, an optical system for focusing laser energy from the laser energy source, through said aperture onto a cut gemstone, a displaceable stage for moving said gemstone mounting system with respect to said optical system so that said focused laser energy is presented to desired positions on said gemstone, having a control input; **an imaging system for viewing the gemstone from a plurality of vantage points**, and a rigid frame supporting said laser, said optical system and said stage in fixed relation, to resist differential movements of said laser, said optical system and said stage and increase immunity to vibrational misalignments. By employing a laser system with low cooling and power requirements, the **device may be made self contained** and compact. By minimizing the size of the apparatus, and enclosing the device in a rigid frame or chassis, vibration immunity is improved. Thus, as compared to systems employing flashlamp excited lasers, substantial vibration isolation apparatus is eliminated.

A preferred laser based inscribing system according to the present invention thus contains the following primary elements:
In a vibration isolated frame 140 with shock absorbers 141, at the positions of support:
(1) Laser diode pumped laser 1 and programmable power supply 14, with a Beam Expander 5.
(2) Optical assembly containing guiding 8 and focusing optics 10, miniature CCD cameras 28, 32 and illumination system.
(3) XYZ motion stages 50 (with Z elevator stage) including encoders 145, limits and DC brushless motors.
(4) Diamond holder 144 and accessories
(5) Enclosure 142 with safety interlock 143 to prevent operation with open cabinet and to prevent stray or scattered laser energy from posing a safety hazard.
(6) Computer system 52 for control:
(a) PC (Pentium 100 Mhz), PCI bus, 1024 by 768 VGA monitor
(b) Frame grabber 56 (Matrox, videographic card).
(c) 3-axis motion controller card 60.
(d) Cables, Power Supplies.
(e) System operation software (Windows).
(f) Application Software

Claim 161 is supported in the specification at least at page 2, which states:

U.S. Pat. No. 3,537,198 relates to a method of working diamonds using laser energy. U.S. Pat. No. 5,190,024, relates to a diamond sawing process. A laser can be used both to mark and saw the diamond in one operation. See also, U.S. Pat. Nos. 671,830, 671,831, 694,215, 732,118, 732,119, 3,527,198 and 4,392,476, as well as Foreign Reference GB 122,470.

Note that claims 162-164 are not dependent from claim 161, and claims 168-170 not dependent from claim 167, and are clearly disclosed elsewhere in the specification, e.g., Fig. 10.

Claims 167-170 are amended to correct antecedent basis, and the amendment of claim 167 is believed to overcome the rejection thereto.

Claim 173 is supported by the specification at least at page 6, which states:

> In many instances, it is desired that each inscribed workpiece be separately identifiable. This may be by way of a unique marking on the stone or a unique combination of marking and easily identified characteristics of the workpiece, such as weight, shape, type, etc. In one embodiment, the markings themselves form a code, such as an alphanumeric or bar code, which may be electronically or automatically read or ascertained from an examination of the workpiece.

Note that a bar code is typically formed with a "line", and the "characteristics of the workpiece" are disclosed to include information drawn from the imaging (mapping) system. As discussed above, the "mapping" system is not limited to surface features, and may include internal flaws as well.

Claims 150-153 and 160 are rejected as being anticipated by Gresser et al., US 4,392,476. It is believed that Gresser et al. is distinguished by the language in claim 150, which recites:

> A diamond marking attachment for **a 3D diamond mapping apparatus capable of generating a map of a diamond whose surface is to be marked** with a predetermined pattern and of determining a succession of marking points representing said pattern...

Gresser et al. is not believed to disclose a system which is capable of generating a map of a diamond to be marked. Since the instant claims are copied, it is appropriate to defer to a claim interpretation which preserves validity of the previously issued claims, which are statutorily presumed to be valid. A Director-instituted reexamination proceeding would be appropriate if the Office believes that previously issued claims are invalid over the art; while simultaneous reexamination and interference instituted by present applicants would be inappropriate. While normally, the Examiner's statement that the preamble "is not found in the body of the claims and is not necessary to breath life and meaning into the claims" would be appropriate for an ex parte

examination, in the case of a copied claim of an issued patent, the opposite conclusion is appropriate and possibly mandated.

With respect to claim 160, and possibly claims 150-153, it is believed that an analysis of the specification under 35 U.S.C. § 112, sixth paragraph, may be appropriate to understand the scope of the "computer means", and possibly distinguish the claims. While the present application and Kerner disclose "computer means" having an electronic imaging input, Gresser et al. do not.

Claims 139-149, 165, 169-171, and 175-176 are rejected as being anticipated under 35 U.S.C. § 102(e) by Rossenwasser et al., US 5,753,887. Claims 165-166, 171-172 and 174 are rejected as being obvious ucer 35 U.S.C. § 103 over Gresser et al. in view of Rossenwasser et al. Note that Rossenwasser et al. is particularly concerned by damage to the stone from secondary internal reflections, which would generally occur only of the laser is unfocused, as represented in Fig. 1 of Rossenwasser et al., and distinguished from the present system which is principally concerned with primary light absorption at the focal point of the laser.

Rossenwasser et al. do state, however:

> The application of indicia by laser to a gemstone surface has heretofore typically required that the target surface not be polished, i.e., be of somewhat rough finish in order to absorb the laser energy. Alternately and more commonly the target surface has a laser-light absorptive coating of some material, e.g. paint or ink, thereon. This coating is arranged to be removed after the indicia has been engraved onto the target surface by the laser beam. As will be appreciated by those skilled in the art, the rough or coated surface absorbs the energy of the laser beam impinging it to, thereby, vaporizing it and the underlying gemstone material.

This appears consistent with applicants' statement that:

> Where a diamond having a polished girdle is to be marked, a single pass inscription is generally sufficient, and an automated optical feedback system may reliably control operation. However, the optical absorption of a smooth girdle on a diamond is low, so that a dye or ink coating is required to be placed on the surface, to ensure absorption of the laser energy. Where the girdle is rough, multiple passes of the inscription device may be necessary to generate a desired marking. The optical absorption of a rough girdle is generally high enough to dispense with the need for optically absorptive dyes or inks. While the execution of retries may be automated, user control may be desirable, and such control is possible through use of the video cameras which are directed at the workpiece, which display a real time image on a computer monitor.

> An optically absorptive dye or ink may be manually applied to the workpiece, such as by a marking pen, or the application process may be automated by applying the dye to a workpiece surface to be marked, such as with a porous marking tip. Advantageously, these inks or optically absorptive dyes remain on the surface of the workpiece, and would not be expected to penetrate. In general, a dye is selected which may be easily removed after marking by use of a solvent, such as alcohol. The dye may be removed manually or through an automated process, such as wiping with a solvent saturated pad.

Taken together, the teachings of Rossenwasser et al. and its characterization of the prior art, are not believed to provide a critical teaching of claim 139 of "coating the gemstone surface with a material that is capable of absorbing energy of a laser beam such that a permanent mark is formed on the gemstone surface when illuminated by a laser beam of sufficient energy, said coating **absorbing laser light with higher efficiency than the gemstone surface alone**..." Rather, the insinuation is that the laser power is "absorbed" into the stone, and thereafter internally reflected, whereas an alternate possibility, addressed by the claims, is that the laser is externally reflected off the surface if it is not coated. Therefore, it is believed that Rossenwasser et al. do not clearly anticipate the copied claims of Kerner, or at least there is a credible argument that the reference need be examiner more carefully.

Claim 165 provides: "A method of laser marking on a diamond surface comprising the steps of: (a) coating the diamond surface with a material that is capable of interacting with a laser beam in a way that a permanent mark is etched therethrough into the diamond surface, at much lower laser power E_1 then the power E_2, that would have been required for achieving such marking directly on the diamond surface without the coating; and (b) marking the coated diamond surface with a focused laser beam of the power E_1." While Rossenwasser et al. possibly disclose a coating which might fall within the scope of element (a), there is no teaching or suggestion in either reference that the laser power is adjusted to a lower threshold value E_1.

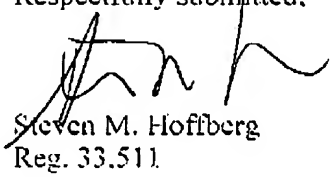
Claim 171 provides the method of: "(a) coating the diamond surface with a material that is capable of interacting with a laser beam in a way that a permanent mark is etched therethrough

into the diamond surface, at reduced laser intensity than the intensity that would have been required for achieving such marking directly on the diamond surface without the coating; and (b) marking the coated diamond surface with a focused laser beam of the reduced intensity." Rossenwasser et al. does not expressly teach or suggest that the laser intensity is reduced as compared to a laser intensity required for an uncoated stone; and indeed, Rossenwasser et al. state that the coating is optional.

Applicants reserve the right to antedate Rossenwasser et al. with a declaration under 37 C.F.R. § 1.131; however, in the present context, this is not believed necessary at this time.

It is therefore respectfully submitted that the application should advance to Inter Partes Interference proceedings to more fully address the issues presented, and to determine priority of invention.

Respectfully submitted,



Steven M. Hoffberg
Reg. 33,511

Milde & Hoffberg LLP
Suite 460, 10 Bank Street
White Plains, NY 10606
(914) 949-3100